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CIP

Serial No. : 10/623,818

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Amendments to the Description:

Please replace the paragraph beginning on line 4 of page 1 with the following amended paragraph:

This application claims priority under 35 USC §119(e) to U.S. Patent Application Serial No. 08/677,380, filed on July 5, 1996, entitled MOTION CONTROLLING, now U.S. Patent No. 6,597,145, the entire contents of which are hereby incorporated herein by reference.

TITLE

MOTION CONTROLLING

CLAIM OF PRIORITY

Inventor a > This application claims priority under 35 USC §119(e) to U.S. Patent Application Serial No. 08/677,380, filed on July 5, 1996, the entire contents of which are hereby incorporated by reference.

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TECHNICAL FIELD

The invention relates to servo systems, and more particularly to motion controlling and position sensing, and still more particularly to motion control systems employing accelerometers.

BACKGROUND OF THE INVENTION

For background, reference is made to Dorf and Bishop, *Modern Control Systems*, Seventh Edition, 1995, Addison-Wesley Publishing Company, ISBN 0-201-50174-0, especially to Chapters 2, 4 and 8.

It is an important object of the invention to provide improved motion controlling.

BRIEF SUMMARY OF THE INVENTION

In one aspect of the invention, a combining network in a closed loop feedback control system combines an acceleration signal (representing an acceleration of a movable element) and a position signal (representing a position of the movable element) to produce an inferred position signal (representing an inferred position of the movable element). The combining network includes a first signal processor for processing the acceleration signal to provide a processed acceleration signal and a combiner for combining the processed acceleration signal with the position signal to provide the inferred position signal.

In another aspect of the invention, in a closed loop feedback control system, a method for combining an acceleration signal and a measured position signal to provide an inferred position signal includes low-pass filtering the acceleration signal to provide a filtered acceleration signal and combining the filtered acceleration signal with the measured position signal to provide the inferred position signal.